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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,552	10/26/2001	Bowie G. Keefer	6454-56838	1313

7590 07/28/2005

KLARQUIST SPARKMAN, LLP  
One World Trade Center, Suite 1600  
121 S.W. Salmon Street  
Portland, OR 97204

EXAMINER
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MEDINA SANABRIA, MARIBEL

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/039,552

Applicant(s)

KEEFER ET AL.

Examiner

Maribel Medina

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 25-43, 88-92, 97-108, 110-112, 114-123, 126-135 and 140 is/are allowed.
- 6) ☒ Claim(s) 13-16, 18, 19, 93-95, 137-139 and 141 is/are rejected.
- 7) ☒ Claim(s) 20, 23, and 96 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/14/05</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Disposition of Claims: Claims pending in the application are 1-16, 18-20, 23, 25-28, 31-43, 88-108, 110-112, 114-123, 126-135 and 137-141.

**DETAILED ACTION**

**Information Disclosure Statement**

1. The IDS filed on 4/14/05 has been considered by the Examiner.

**Claims**

2. Claims pending in the application are 1-16,18-20,23,25-28,31-43,88-108,110-112,114-123,126-135 and 137-141.

- a. Claims 1-12, 25-43, 88-92, 97-108, 110-112, 114-123, 126-135 and 140 have been allowed.

- b. Claims 13-16,18,19,93-95,137-139 and 141 have been rejected (See Below),

- c. Claims 20,23 and 96 have been objected (See below)

Claims 17, 21,22 24, 29, 30, 44-87, 109, 113, 124, 125, and 136 have been canceled by the applicants

**Response to Arguments - Claim Rejections Withdrawn**

3. Applicant's arguments, see Remarks, filed on 4/14/2005, with respect to:
  - Claims 1, 2, 7, 8, 13, 15, 18, 19, 20, 23, 27, 31, 32, 34, 35, 37, 39, 91, 93, 94 and 135 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10027621 A (Koga);
  - Claims 106, 107, 108, and 110 are rejected under 35 U.S.C. 102(b) as being as being anticipated by JP 6334862 (Matsumoto et al.);
  - Claims 106, 108, 110, 111, 124 and 125 are rejected under 35 U.S.C. 102(b) as being as being anticipated by US Patent No. 4, 994,331 (Cohen);

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- Claims 1, 2, 7, 8, 13, 14, 15, 16, 17, 18, 19, 24, 31, 32, 34, 35, 37, 93, 94, 95, and 135 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 63228572 A (Nakaoka et al);
- Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/19249 (De Jong et al);
- Claims 1-20, 23, 25, 27, 29, 30-38, 40-42, 88, 91, 93-97, 99, 100, 112-114, and 117 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2002/0004157 A1 (Keefer et al);
- Claims 3, 4, 9, 28, 38, 43, 88, and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga as applied to claims 1, 2, 7, 8, 13, 15, 18, 19, 20, 23, 27, 31, 32, 34, 35, 37, 39, 91, 93, and 94 above, and further in view of US Patent No. 4,743,276 (Nishida et al);
- Claims 112 and 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 751045 (Abersfelder et al) in view of Koga;
- Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Jong et al as applied to claim 29 above, and further in view of US Patent no. 5,245,110 (Van Dijk et al);
- Claims 3, 4, 9, 28, 38, 43, 88, and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaoka et al as applied to claims 1, 2, 7, 8, 13, 14, 15, 16, 17, 18, 19, 24, 31, 32, 34, 35, 37, 93, 94, 95, and 135 above, and further in view of US Patent No. 4,743,276 (Nishida et al); and

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- Claims 3, 4, 26, 28, 43, 98, and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keefer et al as applied to claims 1-20, 23, 25, 27, 29, 30-38, 40-42, 88, 91, 93-97, 99, 100, 112-114, and 117 above, and further in view of US Patent No. 4,743,276 (Nishida et al);

Have been fully considered and are persuasive. The above-cited rejections have been withdrawn.

4. Applicant's arguments filed on 4/14/05 have been fully considered but they are not persuasive. Applicants arguments with respect to the rejection of Claims 13, and 93 under 35 U.S.C. 102(b) as being anticipated by JP 04206161 A (Yanagi) are not persuasive. Applicants argue that Yanagi does not disclose pressure swing adsorption module that includes a first separation zone and a second separation zone. This argument is not convincing, since Yanagi clearly disclose that each adsorption module (15 A and 15 B) comprises therein a zeolite and a charcoal. No difference is seen between the instantly claimed zones and the zeolite and charcoal adsorbents described by Yanagi.

**Claim Rejections - 35 USC § 102-Maintained**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 13, 14, 15, 16, 18, 19, 93, 94, 95, 137, 138, 139, and 141 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 04206161 A (Yanagi).

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Yanagi discloses a process and system for producing a hydrogen-containing gas by the steam reforming of methanol. The hydrogen-containing gas produced is purified by contacting it with a, steam, carbon dioxide and a carbon monoxide adsorbent; and thereafter introduced to a polymer electrolyte membrane fuel cell. The Absorbent bed comprises as absorbents zeolite and activated charcoal, which are the instantly claimed zones (See translation submitted by applicants on the IDS filed on 4/14/05). No difference is seen between the instantly claimed invention and Yangi's disclosure.

#### **Allowable Subject Matter**

7. Claims 20, 23, and 96 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claims 1-12, 25-43, 88-92, 97-108, 110-112, 114-123, 126-135 and 140 have been allowed.

#### **Conclusion**

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maribel Medina whose telephone number is (571) 272-1355. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maribel Medina  
Examiner  
Art Unit 1754

  
STANLEY S. SILVERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700